Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) A method of determining a birefringence property of a sample, comprising the steps of:

separately directing through the sample a first beam of polarization-modulated light having a first wavelength and a second beam of polarization-modulated light having a second wavelength, the first and second wavelengths being different;

modulating the polarization of the first and second beams after those beams pass through the sample;

analyzing the first and second beams;

detecting the intensity of the first and second beams; and

calculating an actual birefringence property of the sample based on the detected intensities.

2. (original) The method of claim 1 wherein calculating includes:

identifying two or more measured birefringence properties; and

determining the actual birefringence property from among the measured birefringence properties.

3. (original) The method of claim 2 wherein the determining step includes selecting the actual birefringence property from among the identified measured birefringence properties depending upon differences between the measured birefringence properties as compared to differences between the first and second wavelengths.

4. (original) The method of claim 2 wherein the determining step includes selecting the actual birefringence property to be one of the measured birefringence properties in instances where the one measured birefringence properties is equal to another measured birefringence property.

5. (original) The method of claim 1 further comprising the step of determining the actual birefringence property to include magnitude.

6. (original) The method of claim 1 further comprising the step of determining the actual birefringence property to include angular orientation.

7. (original) The method of claim 1 further comprising the step of determining the actual birefringence property to include both magnitude and angular orientation.

8. (original) The method of claim 1 including the step of providing the first and second wavelengths to be about 157 nanometers.

9. (original) The method of claim 8 including the step of providing the sample as a calcium fluoride optical element.

10. (original) The method of claim 1 including the step of providing a sample that is selected to be of a thickness such that the actual birefringence property will include a magnitude that is greater than one quarter of either the first or second wavelengths.

11. (original) The method of claim 10 wherein the sample is selected to be of a thickness such that the actual birefringence property will include a magnitude that is as large as either the first or second wavelengths.

12. (original) The method of claim 2 wherein the determining step includes selecting the actual birefringence property from among the identified measured birefringence properties depending upon how near the magnitude of one of the identified measured birefringence properties is to one-quarter increments of the first wavelength.

13. (original) The method of claim 12 including the step of selecting the second wavelength to be about 20% of the first wavelength.

14. (original) The method of claim 1 including the steps of:

periodically moving the sample so that the beams are directed through a plurality of locations on the sample; and

calculating an actual retardance property of the sample at each location.

15. (original) The method of 1 including the step of simultaneously graphically displaying the retardance magnitude and angular orientation of substantially all of the locations.

16. (original) A method of measuring birefringence properties of a sample, comprising the steps of:

separately directing through the sample at least three light beams comprising a first beam of polarization-modulated light having a first wavelength, a second beam of polarization-modulated

light having a second wavelength, and a third beam of polarization-modulated light having a third wavelength, the first, second, and third wavelengths being different from one another;

modulating the polarization of the first, second, and third beams after those beams pass through the sample;

analyzing the first, second, and third beams;

detecting the intensity of the first, second, and third beams; and

calculating an actual birefringence property of the sample based on the detected intensities.

17. (original) The method of claim 1 wherein calculating includes:

identifying three or more measured birefringence properties; and

determining the actual birefringence property from among the measured birefringence properties.

18. (original) The method of claim 17 wherein the determining step includes selecting the actual birefringence property to be one of the measured birefringence properties in instances where the one measured birefringence property is equal to another measured birefringence property.

19. (currently amended) A system for measuring birefringence properties in a sample, comprising:

a source of two or more beams of light having wavelengths that are different from one another;

means for modulating the polarization of the light beams;

means for separately directing the beams through the sample;

means for analyzing the beams after the beams pass through the sample; and

detection means for detecting the intensity of the beams and using the detected intensities, ~~thereby~~ to provide information suitable for calculating a birefringence property of the sample based on the detected intensities.

20. (original) The system of claim 19 wherein the means for separately directing includes a deuterium lamp and a monochromator.

21. (original) The system of claim 19 wherein the sample comprises calcium fluoride having a thickness of up to about 270 millimeters.

22. (original) The system of claim 19 wherein the wavelengths of the source light are about 157 nanometers.

23. (original) The system of claim 19 wherein the means for modulating the polarization of the light beams comprise a pair of photoelastic modulators.

24. – 30. (canceled)